

considerable variation in the longitudinal sculpture, and have been able to arrange good series of a form *without any* longitudinal ribs, which seems worthy of being a good variety; we have also arranged a good series of an intermediate form showing numerous ribs which grade into the typical form as described and figured by Prof. Verrill. (Trans. Conn. Acad., Vol. V, p. 461, pl. xliii, fig. 12.) We have good examples of the very young of all three forms, showing the sub-nuclear whorls forming the characteristic sculpture.

Bela blaneyi Bush. Two specimens, one immature and one adult, (see previous article).

Philine lima (Brown) = *P. lineolata* Stimp. Two specimens dredged off Egg Rock, one alive.

Retusa obtusa Montg. var. *turrita* Möller. Six specimens.

NOTE.—We have been able this season to dredge fine specimens, both valves, of *Pecten islandicus* (Müller.), *Serripes grænlandicus* (Gmelin), *Panomya norvegica* (Spengler), *Cyrtodaria siliqua* (Chem.), and *Cochlodesma leanum* (Conrad). Of all of which we had previously dredged only single valves.

A NEW LAND SHELL FROM BERMUDA.

BY H. A. PILSBRY AND E. G. VANATTA.

ZONITOIDES BERMUDENSIS n. sp. Fig. 1a, b, c, d.

The shell is broadly umbilicate, much depressed, with low convex spire and rounded periphery, glossy, yellow. First $1\frac{1}{2}$ whorls corneous, smooth, the rest distinctly, rather irregularly striate, the base a little smoother. Under the compound microscope very faint traces of minute spiral striæ may be seen, chiefly on the upper surface. Whorls $5\frac{1}{4}$, convex, slowly increasing, the last less convex below than in the peripheral region; the umbilicus perspective, broadly open, one-third the total diameter of the shell. Aperture lunate, wider than high, but not much wider than the umbilicus.

Alt. 2.3, diam. 5.7 mm.; width of umbilicus 1.8, aperture 2 mm.

Church Cave, near Tuckers' Town, Bermuda. Types no. 91,152, A. N. S. P., collected by Mr. Stewardson Brown, 1905 and 1909.

This species has more whorls and a smaller apex than *Z. excavata* (Bean), it is more depressed, the last whorl is less convex beneath, and the umbilicus is larger. *Z. arborea* (Say) has invariably a

much smaller umbilicus than the Bermudian species, which is more depressed than *Z. nitida*, with a more open and perspective umbilicus.

This shell is abundant at the place mentioned, where it is associated with numerous other land shells, most of them native species. We have been unable to find any foreign species to which this may be referred. It seems to be indigenous. The generic reference has been verified by examination of the dentition, which has teeth of the type usual in *Zonitoides*. There are 6 lateral and about 17 marginal teeth (fig. 1d). The jaw is smooth, with a low median projection (fig. 1c). We found no dart in the two dried specimens examined, but this may have been due to their condition.

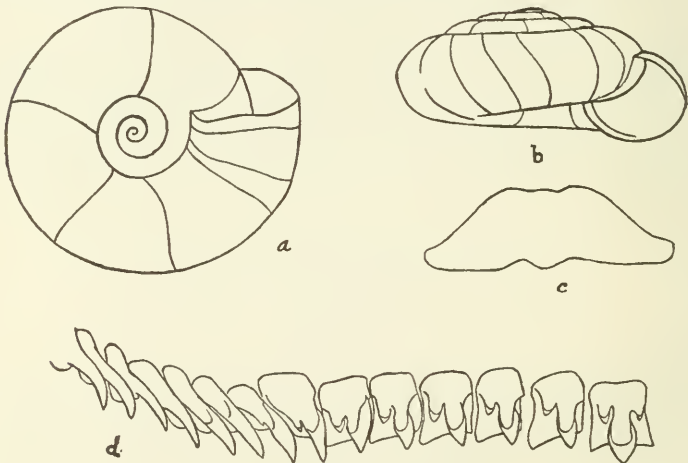


FIG. 1. *Zonitoides bermudensis*.

KALIELLA TURBINATA (Gulick).

Euconulus turbinatus Gulick, Proc. A. N. S. Phila., 1904, p. 420, pl. 36, figs. 8, 9, 10.

This species is abundant at Church Cave. An examination of the radula shows it to be a typical *Kaliella*. It resembles the Indian *K. fastigiata* (Hutton), but is distinct from that and all other known Indian species, according to Lieut.-Col. Godwin Austen, who kindly compared specimens with his great series of oriental species.

K. turbinata was described from sub-fossil examples from the lime-rock quarries. It is therefore not a recent importation; yet the presence of this oriental genus in Bermuda can hardly be accounted for except by the supposition of introduction with plants during the period of human occupation.